

Annual Report of Chief Engineer State Highway Department

1930

Dover, Delaware,
December 31, 1930.

To the Chairman
and Members of the
State Highway Department,
Dover, Delaware.

Sirs:

Pursuant to the statute, I herein submit a report of the work of the State Highway Department during the year 1930, with a list of roads the Department has been petitioned to improve and with certain recommendations for the year 1931.

SURVEYS Three survey parties have been maintained **AND PLANS** in the field throughout the year, making preliminary and final location surveys, staking out work for constructions and taking final measurements of completed work. Surveys have been completed as follows:

Base Line	151.5 miles
Topography	114.8 "
Cross Sections, preliminary and final	186.0 "
Contracts staked out for construction	67.4 "
Borrow Pits Cross Sectioned	38

Numerous surveys have also been made for Right of Way and Maintenance purposes that do not show in the above tabulation.

In order that increased Federal Aid appropriations could be absorbed during the past year practically all State Highway contracts were Federal Aid projects. This created additional work for the Drafting Department as Project Statements, Sketch Maps and Estimates had to be prepared for each project. Preliminary inspection had to be made of each project with a representative of the Bureau of Public Roads before approval by the Bureau and monthly inspection is likewise required during construction.

An increase of over 30% in the amount of work done by the Drafting Department over 1929 has been accomplished without an increase in personnel.

A survey of the work of the Drafting Department is as follows:

Line Plotted	141.5	miles
Cross Sections plotted (original and final)	183.8	"
Cross Sections computed (original and final)	183.8	"
Profile and Grade laid	75.9	"
Index Map plotted and traced	121.6	"
Plan and Profile traced	93.5	"
Plotted and Computed	38	Borrow Pits

RIGHT OF WAY During the year from December 1, 1929, to December 1, 1930, the Right of Way Department has secured rights of way on eighteen contracts, having a total mileage of 58.35 miles comprising 342 properties, of these properties 310 were obtained by option and 32 by condemnation. The following is an itemized account of the moneys expended to obtain this right of way:

Salaries and Expenses	\$3,006.21
Legal	6,385.86
Right of Way	10,548.27
Fencing	10,878.46
Building Moving	8,557.97
Cond. Costs and Awards	5,122.88
Crops and Trees	737.68
Miscellaneous	376.24
	<hr/>
	\$45,613.57

Rights of way acquired on contracts carried over from previous year totaled 88 properties, of these 77 were acquired by deed and 11 by condemnation, at an itemized cost as follows:

Salaries and Expenses	\$236.04
Legal	77.81
Right of Way	2,803.59
Fencing	519.54
Building Moving	1,829.10
Cond. Costs and Awards	1,079.12
Crops and Trees	56.25
Miscellaneous	2,853.85
	\$8,455.30

A summary of the year's work is as follows: Descriptions written 427, options obtained 322, deeds executed 330, releases from mortgages and judgments executed 179, condemnation commissions 37, condemnation juries 2, houses moved 27, stores 5, barns 3, miscellaneous buildings 20.

The costs as given include all expenses made necessary by the straightening and widening of State highways, including salaries, title searches, preparing and recording deeds and releases, condemnation property damages.

TESTING LABORATORY During 1930 the work of the testing laboratory was carried on with the object in view of constantly improving the quality and condition of materials used, as well as reducing the number of necessary rejections, particularly rejections of material after arrival on the work. To achieve the latter, it was necessary to make a greater number of tests of basic material deposits, especially of crushed stone for cement concrete, in some cases several months before shipments were started. This method required the testing of some deposits which were not later used as sources of supply. In going over the records for the year, however, it is felt that this method of procedure was justified in that there was not a single rejection of material found necessary, from the standpoint of quality, after the material had arrived on the work.

PORTLAND CEMENT—During 1930 Portland Cement was furnished under a specification requirement adopted the previous year which adhered closely to the standard specifications of the American Society for Testing Materials with this exception: That the tensile strength requirements of the Delaware specifications are two hundred and seventy-five pounds at the seven-day period and three hundred and seventy-five pounds at the twenty-eight-day period, instead of two hundred and twenty-five pounds and three hundred and



Milford Cut-off, Near Mispillion River, Kent County
20-foot Concrete Roadway



Milford Cut-off, Near Mispillion River, Sussex County

twenty-five pounds required by the A. S. T. M. specifications at the same periods.

It was claimed by some of the cement manufacturers, at the time our higher specification was adopted, that the extra strength requirement would possibly cause an increase in the cost. This was found not to be the case, as the development of a high early strength cement in the industry, by some companies, had caused a general increase of the tensile strength by practically all companies. Our specifications were met with very little difficulty and at no increased cost.

A change was made in the A. S. T. M. tensile strength requirements during the year, which makes our specifications coincide with them at the seven-day period and coincide within twenty-five pounds at the twenty-eight-day period.

SAND—Most of the sand used as fine aggregate in concrete during the year was supplied from commercial sources outside of the state, although when economically possible and when quality would allow, sources within the state were used. As all of the sources had been used in previous years, the quality of the deposits was generally known and only routine check tests were necessary.

CRUSHED STONE—Owing to a change in the grading specifications of crushed stone a large number of tests and a marked increase of supervision were necessary during the past year. In order that better and more uniform concrete would be obtained, the maximum size of the crushed stone was reduced so that one hundred per cent would pass a two and one-quarter inch screen and the percentage of material between the one-quarter inch and the three-quarter inch screens was materially increased. This change of gradation, while improving the concrete, gave a coarse aggregate more expensive to produce and more difficult to handle to avoid segregation of the various sizes. It was necessary at most plants to install some additional means of loading cars so that the material was uniformly graded when received on the work.

The stone producers were found very willing to co-operate in furnishing a material exactly meeting the new requirements. Considering the improvement in the concrete derived from the use of crushed stone under the new specifications, an increase in the price of the stone would have been justified. However, through a close contact maintained between the Laboratory and the stone producers,



Bascule Bridge Over Mispillion River, Milford Cut-off, Kent and Sussex Counties

tests were made so that the producers were put to very little inconvenience and there was no increase in cost.

CRUSHED SLAG—Crushed slag for traffic bound roads was tested for each contract at the source of supply before shipments started. Afterwards only routine check tests were necessary as the material was being shipped. There were no rejections of slag necessary during the year as in each case shipments were made of the same type and gradation as had previously been accepted.

HYDRATED LIME—The specification requiring that lime be used as an admixture in roadway concrete in the amount of ten per cent, by volume, of the cement content remained unchanged for the year. It was found that the increase in the qualities of waterproofness and workability well justified the slightly increased cost.

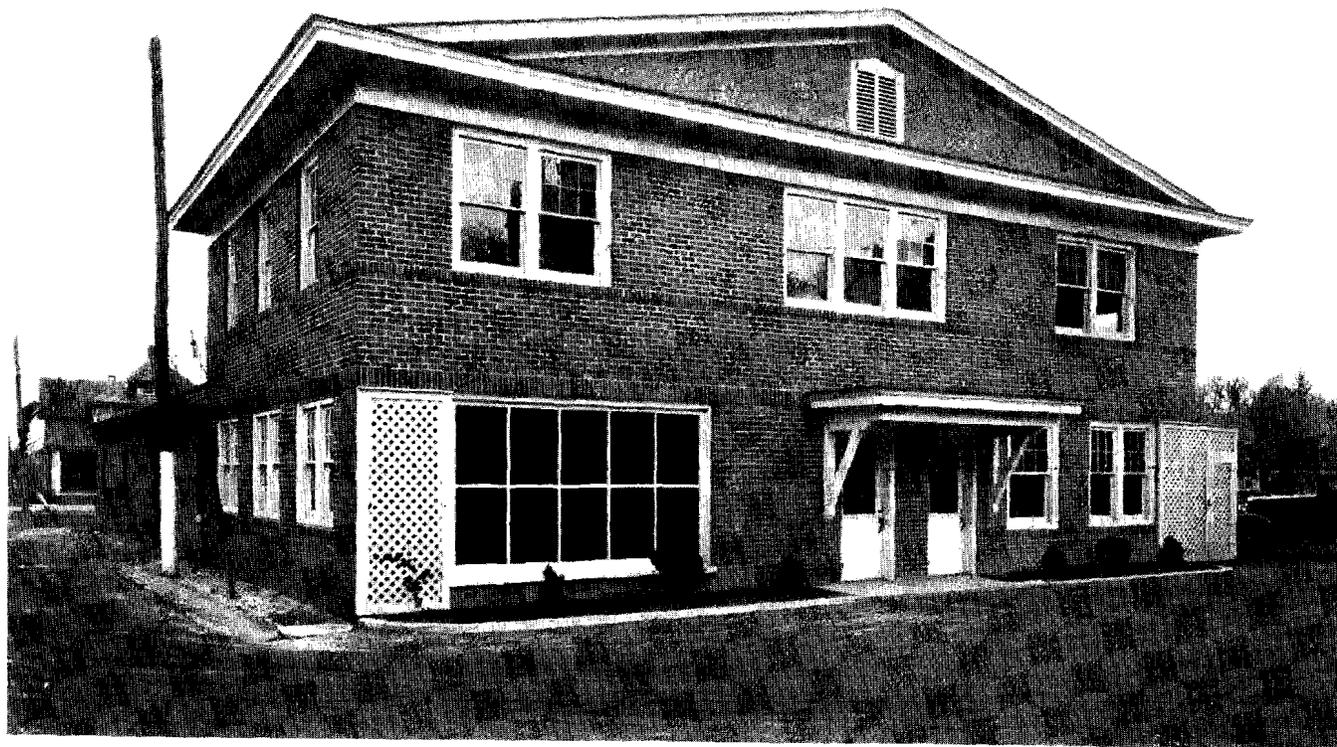
Each car of hydrated lime was sampled and tested so that results were available by the time the car was received on the work.

CALCIUM CHLORIDE—This material, in the form in which it is furnished for use in concrete, is so well standardized that individual shipments were not tested. It was so arranged, however, that at least one sample was tested from each contract.

REINFORCED CONCRETE PIPE AND CORRUGATED METAL PIPE—These two classes of pipe were tested for quality and inspected for condition, by representatives of the testing department, at the various points of manufacture. All rejections were made at those points and after arrival no further inspection was necessary except to discard all sections which might have been damaged in transit.

CORE DRILL—During the year a motor driven core drill was purchased by the Highway Department and mounted on a motor truck. This device is used to drill a number of actual specimens from the completed concrete roadway. Tests on these specimens are then made to determine the suitability of all the constituent materials and results so far have proven very valuable in determining actual strengths and have aided in designing concrete mixes for subsequent uses, as well as to check the thickness of the finished pavement.

The Laboratory is laboring under the handicap of not possessing a testing machine of sufficient capacity to test these cores, and I would recommend the purchase and installation of a machine of the required capacity.



Georgetown Office, State Highway Department, Sussex County—Improvements, Including Second Story, Made in 1929.

BRIDGES A total of 35 bridges and 257 culverts have been
AND built during the year. The Bridge Division has made
CULVERTS detailed surveys and investigations of the sites of
these structures, and has prepared plans and specifications for each
individual location.

The most important bridge completed during the year was
over the Mispillion River on the Milford Cutoff.

It is an overhead counter-weight, rolling leaf bascule type bridge
with a clear span of 45 feet and with two approach spans of 22 feet
each, a roadway of 24 feet and a single 5 foot sidewalk. The total
cost of this bridge was \$60,026.18 and it has been in service since
August 1, 1930.

The Newport underpass has been completed during the year
and was opened for traffic in June. This project was a joint one
with the Pennsylvania Railroad and the cost of the structure and
roadway, amounting to \$138,754.10, was shared equally.

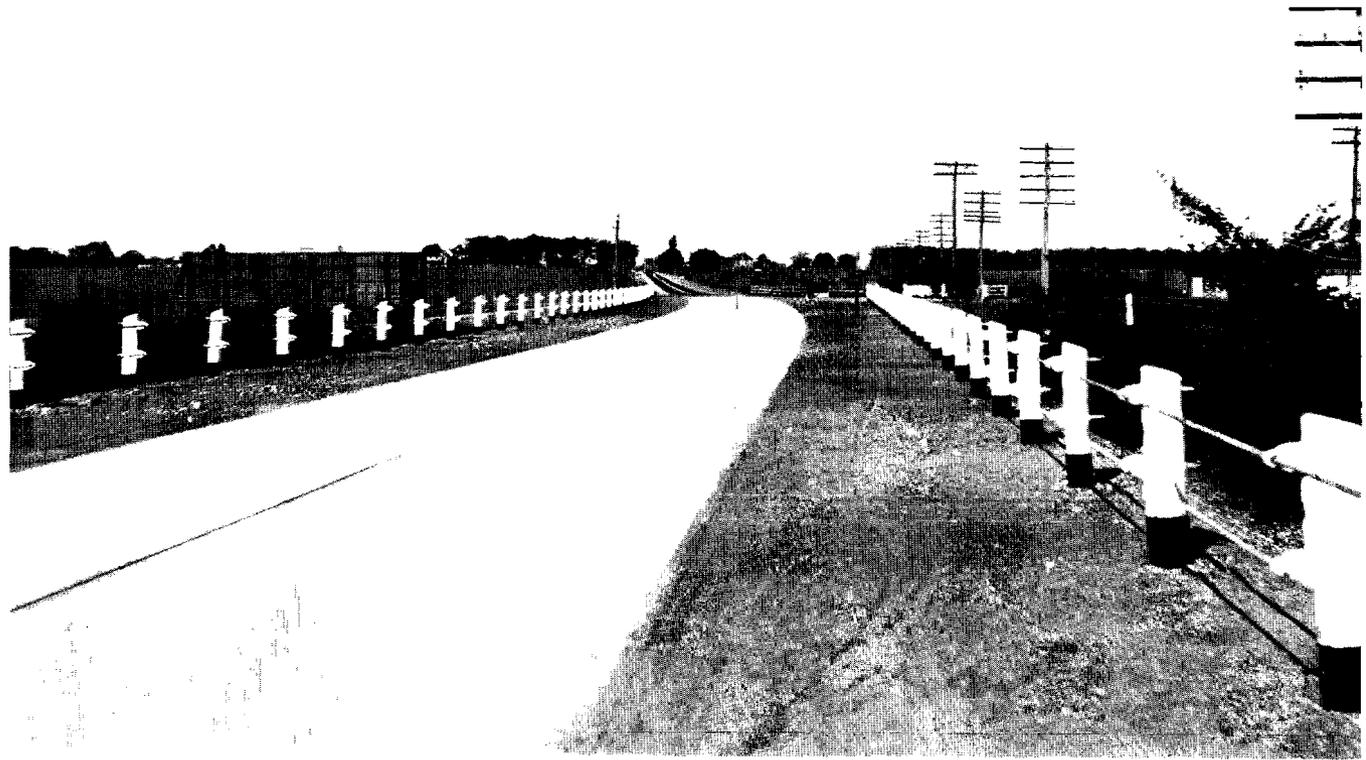
The elimination of this crossing over the main line of the Penn-
sylvania Railroad removes a long existing hazard and greatly im-
proves conditions at this point. There has been a marked increase
of traffic since the completion of this work.

Another elimination was that of Elliott's Crossing in the town of
Bridgeville, by means of a relocation which relieved the travelling
public from crossing and recrossing the tracks in a location of poor
visibility.

All bridges have been maintained in excellent condition through-
out the year and major repairs have been made to four bridges
at a total cost of approximately \$13,750. This includes the re-
building of the timber bridge over the Indian River at Millsboro and
repairs to the foundation of the Duck Creek, Appoquinimink and
Bellevue Bridges.

BUILDINGS The storage shed at State Road mentioned in
last year's report was completed early in the year and is a valuable
addition to the properties of the Department; the total cost was
\$5,395.94.

Additional land was purchased adjoining the Georgetown Garage
and office building to provide for future enlargement and storage
when needed.



Middletown-Mt. Pleasant State Highway, New Castle County—20-Foot Concrete Connection With Warwick Road, Avoiding Two Railroad Grade Crossings

ESTIMATES During the year this section of the office has kept all data in regard to estimates, Federal Aid vouchers and franchises.

All items were computed, checked and prepared for payment upon 100 road contracts and 44 Federal Aid vouchers.

Fifty-six franchises were prepared and issued to Utility Companies.

A new filing system was prepared and installed which gives quick access to road construction data since the Highway Department started.

MAINTENANCE The work of maintenance is supervised by an engineer in each county under whose direction crews were kept at work throughout the year, keeping in repair and order the 813.26 miles of the State Highway System.

The total cost of this work for the twelve months ending November 30, 1930, was \$275,272.32 or an average of \$338.48 per mile. This includes the cost of new trucks and equipment amounting to \$65.92 per mile, also the maintenance of all bridges previously mentioned. On account of the drought which continued almost the entire season the work of shoulder maintenance was a difficult one and required more than ordinary attention.

During the season a survey was made of locations where pavement settlements in the vicinity of bridges and culverts were sufficient to cause annoyance and discomfort to motorists.

When conditions warranted the pavement was removed and replaced; in most locations, however, patching with bituminous mixtures was resorted to. Surplus asphalt at joints and cracks has also been removed on a considerable mileage by the use of blow torches. These operations have resulted in an improvement in the riding qualities of our principal highways.

The expectation as voiced in last year's report that the surface treated slag macadam roads would not require bituminous surface treatments each year in the future, has been fulfilled and only one road was treated during the year.

As a result of the maintenance work as outlined, I believe the general condition of the entire highway system to be better than at the beginning of the year.



Coleman du Pont Road, U. S. Route 113, Sussex County, Selbyville to Georgetown—Widened to 18-foot Roadway by Addition of 4 Feet of Concrete

CONSTRUCTION During the year 1930 the Department held eight lettings, consisting of 25 road contracts, one major grade separation contract, one road oiling contract, one sidewalk, and one guard rail contract. The total number of bidders who submitted bids amounted to 148, or an average of more than five per contract. The total of the lowest bids for these contracts amounted to \$1,824,120.60, of which \$1,809,590.35 was for the new construction of roadways.

The total road contracts consisted of 87.5 miles. Of this total, 49.5 miles represented new construction of hard surfaced types of pavement, 13.6 miles were secondary traffic bound slag, 4.6 miles were gravel surface roads, 0.4 miles of cinder road, 0.5 miles of sidewalk and 19 miles of 4 ft. widening to existing roads. Carried forward from the 1929 construction season was 1.8 miles of concrete pavement or a total of 89.3 miles under construction.

The work this year was advertised early and this fact and a combination of unusual weather conditions permitted the completion of all the work advertised and awarded, with the exception of 4.4 miles of roadway from Providence Church to Columbia, which owing to the late date at which this was advertised will be carried forward into 1931 for its completion.

The mileage of roadways completed during the construction season besides the 19 miles widening to the duPont Road between Selbyville and Georgetown amounts to 67.5 miles, which added to the State's system at the beginning of the year 1930, totals 813.26 miles under State control or 21.4% of the entire State's system of rural highways.

The location of the highways built this year was mostly on secondary roads and connections between them, the widening of existing primary roads and the elimination of dangerous grade crossings.

This year saw the construction of the widening of the Coleman duPont Boulevard between Selbyville and Georgetown, a distance of 19 miles. This road, built in 1915 and 1916 before the inception of the Highway Department and subsequently taken over by it, has served traffic admirably in spite of its light construction and narrow width. The advent of the motor truck has made it necessary to add a 4 ft. strip of concrete, and it is hoped to continue this to

TABULATION OF CONTRACTS AWARDED IN 1930

Contract No.	Location	Cost Total	Contractor	Length (Miles)	Type of Roadway
104	Milford Cutoff	\$ 74,491.75	Old Line Const. Co., Chestertown, Md.	1.516	20' Concrete
140	Blackiston-Maryland Line	85,726.00	George & Lynch, Dover, Del.	3.117	16' Concrete
141	Owens-Ellendale	121,756.00	Roberts Paving Co., Salisbury, Md.	4.82	15' Concrete
CS55A	Buatings Branch Bridge & Rdwy.	7,980.00	W. W. Truitt, Lincoln City, Del.	90 ft.	Bridge and 90' of 14' Concrete
67	Elliott's Crossing Elimination	2,015.00	Walter Roach & Sons, Georgetown, Del.	0.4	16' Cinder Roadway
134	Thompsonville-South Bowers	40,971.40	A. Petrillo, Wilmington, Del.	4.31	16' Traffic Bound Slag
146	Masten's Cor.-Hollandsville	55,768.50	Hwy. Engr. & Const. Co., Selbyville, Del.	3.07	9' Concrete
159	Seaford School Sidewalk	3,830.00	E. P. Downing, Salisbury, Md.	0.5	5' Conc. Sidewalk
160	Bridgeville-Bakers Cor.	28,810.00	Walter Roach & Sons, Georgetown, Del.	0.9	9' Concrete
145	Selbyville-Georgetown (wdg.)	241,131.40	Hwy. Engr. & Const. Co., Selbyville, Del.	18.9	16.5 Mi. 4' Conc. Shoulders 2.4 Mi. 4 Conc. Shoulders and 14' and 16' Amiesite 18' Concrete
147	Newark-Maryland Line	67,743.00	D. E. O'Connell & Sons, Ridley Park, Pa.	1.42	1.22 Mi. 18' Concrete
149	Middletown-Mt. Pleasant	184,720.60	George & Lynch, Dover, Del.	5.12	3.90 Mi. 4' Conc. Shoulders and 14' Amiesite 9' Concrete
151	County Farm-Shortly	87,403.50	Old Line Const. Co., Chestertown, Md.	4.79	1.0 Mi. 16' Concrete
154	Clayton-Md. Line via Delaney	108,579.75	George & Lynch, Dover, Del.	5.40	4.4 Mi. 9' Concrete 34' Concrete
103C	Newport Underpass	10,459.00	D. E. O'Connell & Sons, Ridley Park, Pa.	0.15	20' Concrete
138	Governors Ave., Dover	103,796.00	W. W. Truitt, Lincoln City, Del.	2.8	16' Traffic Bound Slag
152	Farmington to Williamsville	24,545.00	Hwy. Engr. & Const. Co., Selbyville, Del.	3.6	18' Gravel Surface
158	Zoar Camp-Millsboro	23,295.00	Hwy. Engr. & Const. Co., Selbyville, Del.	3.6	20' Concrete
162	Marine Terminal Road	25,095.00	D. E. O'Connell & Sons, Ridley Park, Pa.	0.6	16' Traffic Bound Slag
165	Levels Road-Dogtown	16,371.50	George & Lynch, Dover, Del.	2.077	Driveways
166	Police Sta. No. 1 Driveways	2,242.25	Olivere Paving & Const. Co., Wilmington, Del.	1.0	18' Gravel
167	Cotton Patch Hills-State Lands	7,804.00	Bennett & Short, Bethany Beach, Del.	3.031	9' Concrete
148	McAllisters Cor.-Wesley Church	46,922.00	Old Line Const. Co., Chestertown, Md.	2.4	16' Traffic Bound Slag
133	Whitehall Neck Road	4,500.00	A. Petrillo, Wilmington, Del.	4.38	15' Concrete
142	Providence Church-Columbia	106,632.85	George & Lynch, Dover, Del.	3.49	9' Concrete
150	Greenwood-Scotts Store	61,045.10	Old Line Const. Co., Chestertown, Md.	1.2	14' Water Bound Macadam
163	Williamsville-Bayville	14,844.00	Walter Roach & Sons, Georgetown, Del.	4.2	Surface Treatment
170	Townsend-Dexters Corner	1,680.00	Good Roads Machinery Co., Upper Darby, Pa.30	Fill and Bridge Substructure
144A	Marshallton Fill and Substructure	19,145.00	D. E. O'Connell & Sons, Ridley Park, Pa.		Guard Rail
81C	Guard Rail, Penny Hill	608.00	W. I. Newton, Newark, Del.		
		\$1,576,911.60		82.59*	

18

*Does not include Contract 170, Surface Treatment.

Milford so that the minimum width on any of our main highways will not be less than 16 ft.

In the building of the Middletown-Mt. Pleasant road, the Department built a cutoff line for the interstate travel, avoiding two railroad crossings at the entrances of Middletown.

This year has seen the building of 14 miles more of traffic bound slag roads, a type of which 15 miles were built, maintained and observed during the past year. This type of roadway, costing about \$6,000.00 per mile, including grading and drainage, will take care of traffic for years to come in their localities and serve as a basis for a better type of roadway when justified by traffic demands.

Among the important roads built this year was the Newark-Maryland Line roadway (Conowingo Road) which will be a short cut for the public in this section visiting this gigantic dam.

The Marine Terminal road, the Newport Underpass, the Milford Cutoff, the reconstruction of the Middletown-Mt. Pleasant Road and Governors Ave. cutoff in Dover will serve traffic better on our main highways.

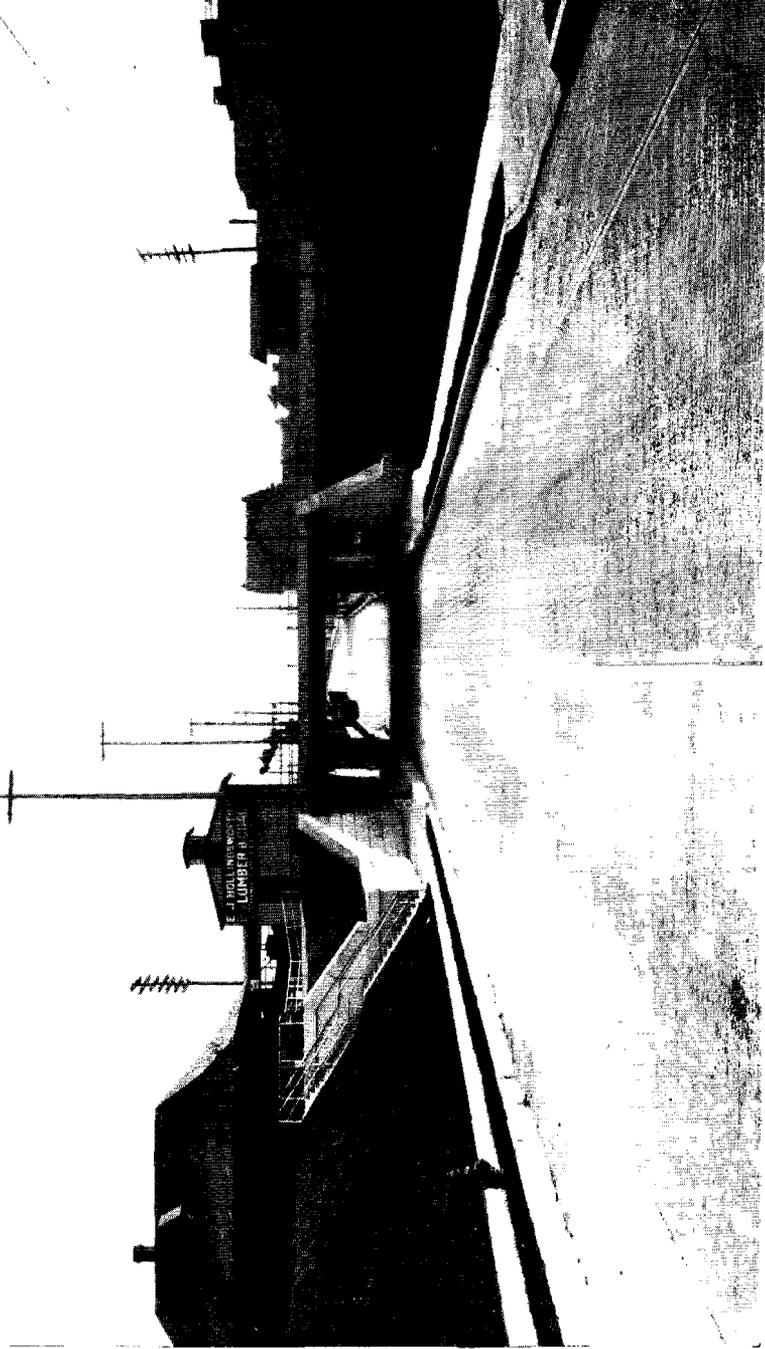
Important secondary roads were the construction of interstate connections, Clayton to the Maryland Line via Delaney, the Blackiston Crossroads-Maryland Line, Owens-Ellendale and the Providence Church-Columbia highways.

Attached is a summary of contracts advertised and awarded during the year, their location and type.

HIGHWAY MARKERS The use of the U. S. Standard markers has been extended and the numbering of U. S. Route Nos. 13 and 40 has been carried through the city of Wilmington. As rapidly as the old markers require replacement the new standard markers are being erected.

The numbering of the State routes would be of considerable assistance to tourists and I would recommend that the principal routes be designated by numbers and suitable signs erected during the coming year.

STATE HIGHWAY POLICE For the first time since records have been kept there has been a reduction in the number of reportable motor vehicle accidents in the State of Delaware this year.



Railroad Grade Crossing Elimination, Newport, New Castle County

Up to December 1st, 1930, there was a decrease of 9.1% as compared to 1929.

Although this decrease is small it was achieved in spite of an increase of 9.8% in the registration of cars and an increase in traffic of 14% as measured by gasoline consumption.

There was a decrease of fatal accidents of 4 for the same period.

Various agencies have contributed to this record but to the State Highway Police, I believe substantial credit should be given.

There are three possible methods of securing greater safety on the highways: 1st. The building of "fool-proof" highways, similar to the State Road-St. Georges dual highway; 2nd. Educating the individual driver to play safe; and 3rd. A more rigid enforcement of the traffic laws.

The first requires time and a large expenditure of money, the second a long educational period. The third has proven effective wherever it has been efficiently and impartially carried out.

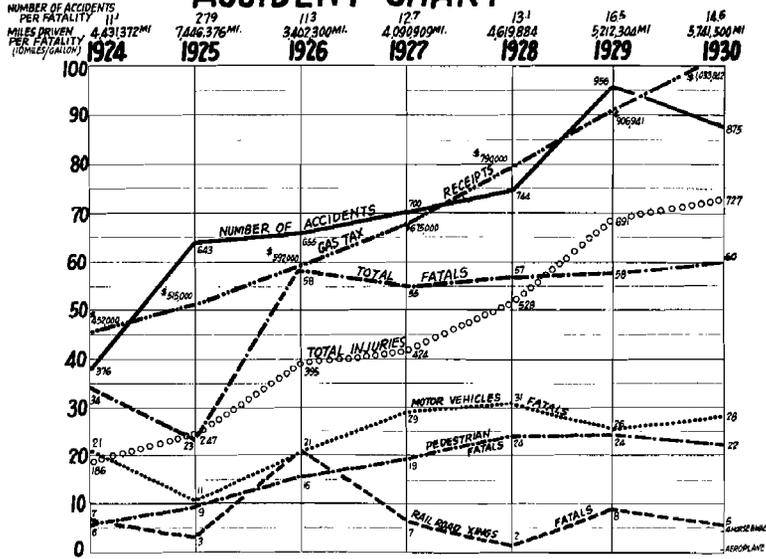
From personal observation I am convinced that the presence of a uniformed motorcycle officer on a highway has a greater restraining influence on the reckless and careless driver than can be secured by any other means available.

Officers of the State Highway Police during the year 1930 patrolled 800,310 miles of highways, inspected 11,526 cars for defective lights and brakes, weighed 19,260 trucks, recovered 98 stolen cars, made 6,349 arrests for 119 different causes, issued 30,314 reprimands and secured conviction resulting in fines collected totalling \$76,927.00 for the period. This record surpasses that of any previous year.

The greatest number of arrests for any one cause was reckless driving, 2,253; arrests for larceny totalled 138. A complete tabulation of arrests and of accidents and their cause is appended; a study will show that the force is actively carrying out its duties as required by statute.

Enforcing the Aeronautical Laws of the State is one of the newest police duties. For the protection of the public, inspection has been made of the licenses of all pilots and planes operating in the state. One pilot was arrested and fined for carrying passengers without a transport license.

STATE OF DELAWARE
STATE HIGHWAY DEPARTMENT
ACCIDENT CHART



Hollandsville-Master's Corner State Highway, Kent County

I am attaching again this year the Accident Chart, showing the total number of accidents, fatalities, injuries and the number of fatalities from the different causes, together with the record of gasoline consumed for the years 1924 to 1930.

The record continues to be favorable and credit is due to all citizens who have aided in the work of protecting the lives of our citizens on the highways. Especial mention should be made of the excellent work and friendly co-operation of the Delaware Safety Council.

Previous to last June the Georgetown Station was not operated on a 24-hour schedule; in response to a growing demand for night service at this station, officers are now on duty throughout the 24 hours of the day.

I would recommend that during 1931 that Station No. 3 at Dover be replaced by a permanent building similar to those at State Road and Penny Hill, and a similar replacement of Stations 4 and 5 in the near future as funds are available.

My familiarity with the long hours, the arduous and hazardous nature of the work done and the loyalty and faithfulness shown by the officers and men of the force in protecting the life and property of the public compel me to make public record of my belief in their value.

The present disposition of the force is as follows:

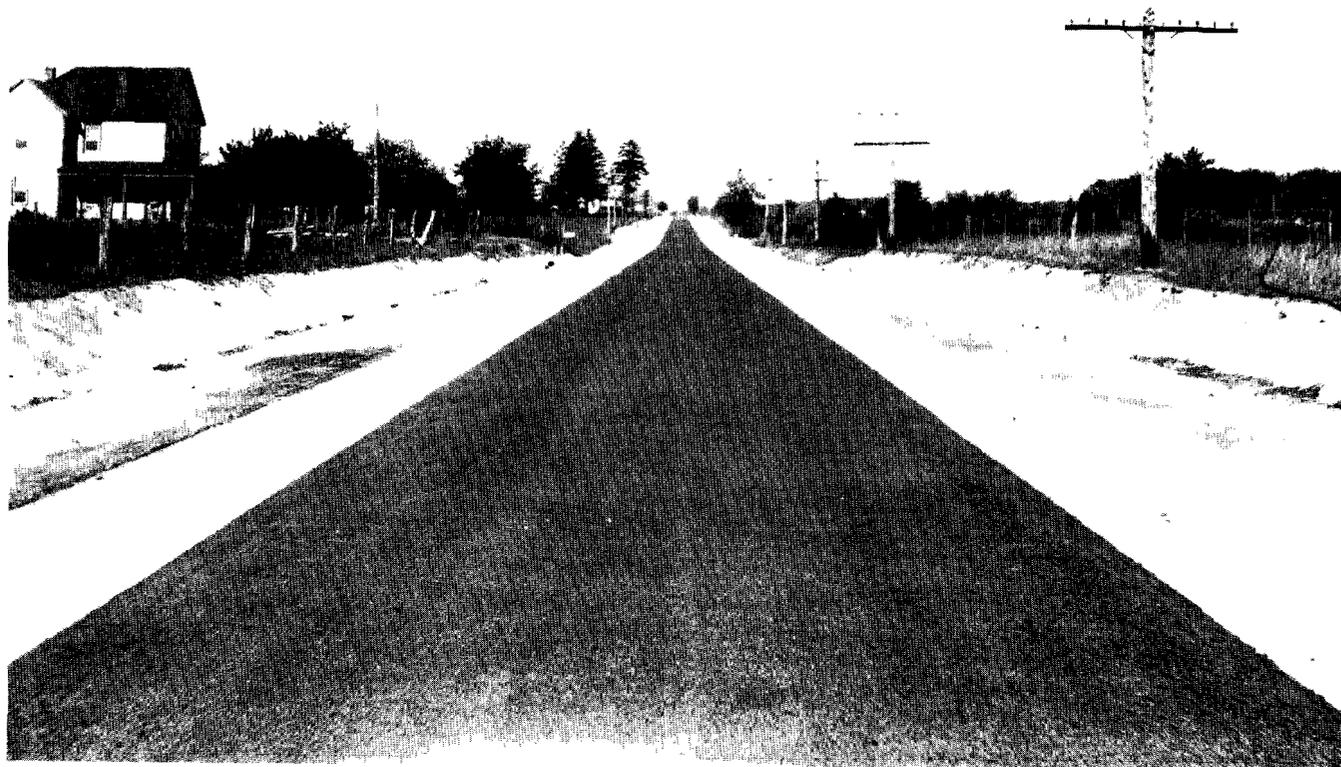
Wilmington Headquarters — Superintendent, Captain, Lieutenant and Clerk.	3
Station No. 1, Penny Hill—1 Sergeant and 10 Privates.	11
Station No. 2, State Road—1 Sergeant and 12 Privates.	13
Station No. 3, Dover—1 Lieutenant, 1 Sergeant and 8 Privates.	10
Station No. 4, Georgetown—1 Sergeant and 5 Privates.	6
Station No. 5, Bridgeville—1 Sergeant and 5 Privates.	6
Total on duty—50.	

There were two resignations during the year.

Arrests Made From January to December, 1930

Abduction	2
Accessory	6
Adultery	1
Aiding, Abetting	2
Allowing an intoxicated person to operate	1
Allowing a minor to operate	10
Allowing an unlicensed person to operate	201
Allowing an unregistered car to be operated	4
Arson	2
Assault	9
Assault and battery	125
Assault, felonious	10
Assault to murder	6
Assault to rob	3
Breach of peace	3
Breaking and entering	18
Breaking jail	6
Carrying a concealed deadly weapon	18
Carrying passengers unlawfully	2
Contempt of court	4
Cruelty to dumb animals	2
Defacing engine number	1
Defective brakes	110
Desertion (army)	2
Desertion (wife)	2
Disorderly conduct	74
Displaying false license	16
Distributing gambling machines	1
Disturbing the peace	6
Drug addict	3
Drunk	19
Drunk and disorderly	178
Embezzlement	1
Failing to report accident	5
Failing to signal	9
Failing to stop upon entering main highway	263
Failing to transfer title	1
Forgery	8
Fugitive from justice	1

Held as witness	43
Held for investigation	16
Highway robbery	2
Horse-drawn vehicle no light	5
Improper Tags	86
Improper Lights	51
Incorrigible	2
Insane	2
Interfering with officer	1
Interfering with operator	135
Larceny	138
Leaving accident	31
Lending license plates	8
Lending operator's license	21
Livestock running at large	5
Load too high	1
Making false statement	2
Making threats	12
Malicious mischief	3
Manslaughter	31
Murder	7
No airplane transport license	1
No chauffeur's license	105
No clearance lights	26
No horn	45
No mirror	66
No muffler	22
No operator's license	739
No photo on paid driver's license	24
No title for car	11
No windshield wiper	13
Non-support	9
Obtaining goods under false pretenses	2
Obtaining money under false pretenses	1
Operating after revocation	6
Operator while intoxicated	300
Overloaded rear axle	49
Overloaded trucks	237
Operating gambling table	1
Parking on highway	23



Middletown-Mt. Pleasant State Highway, New Castle County—Concrete Shoulders, Amiesite Resurfacing—22-foot total width.

Parking, no lights	20
Passing on right	24
Passing traffic light (red)	19
Passing stop sign at R. R. crossing	1
Passing worthless check	31
Passing trolley on left	1
Playing crap	9
Pointing firearm	4
Possession of still	1
Possession of stolen car	14
Possession of stolen goods	4
Possession of whiskey	22
Rape	1
Receiving stolen goods	4
Reckless driving	2,253
Refusing to give right of way to fire engine	1
Refusing to stop upon request	6
Refusing to surrender license after revocation	1
Resisting arrest	1
Robbery	1
Runaway from home	13
Runaway from industrial school	1
Selling shortweight bread	1
Siren on automobile	1
Stealing	4
Taking car without consent of owner	26
Throwing glass on highway	7
Transporting liquor	17
Transporting unmarked apples	1
Trespassing	13
Unregistered car	375
Using cut-out	10
Using female child for immoral purpose	8
Vagrancy	3
Violating Dyer Act	3
Violating Fish and Game Laws	4
Violating learner's permit	16
Violating Mann Act	1
Violating parole	3
Wife beating	6

Total number of arrests	6,349
Total number of reprimands	30,314
Total number trucks weighed	19,260
Total number miles patrolled	800,310
Total number cars inspected for lights and brakes	11,526
Total number hours spent on investigation	2,367
Total number hours spent on special duty	13,743
Total number hours spent on duty	146,405
Total number stolen cars recovered	98
Total number school buses inspected	96
Total number schools visited	38

Report of Accidents

Total number accidents	875
Total number killed	60
Total number injured	730
Estimated Property Damage	\$167,770.00

Fatalities	{	Motor Vehicles	33
		Pedestrians	22
		Railroad Crossings	5
		Street car Crossings	0

Injured	{	Slight	622
		Serious	45
		Slight	52
		Pedestrians	
		Serious	11

Condition of Highway	{	Dry	665
		Wet	210

Location	{	Straight Road	558
		Intersection	224
		Railroad Crossing	22
		Street Car Crossing	8
		Curve	63

Causes

Recklessness	189
Inattention	117
Skidding	73
Operating while intoxicated	58
Loss of control	50
Jay walking	53
Cutting in	38
Failing to stop before entering main highway	39
Failing to signal	33
Driving on wrong side of road	31
Driving while asleep	25
Ran off roadway	17
Passing without proper clearance	13
Glaring headlights	15
Operator confused	11
Inexperienced operator	8
Tire (blow out)	11
Driving too close	9
Bad brakes	7
Obstructed view	7
Wagon no lights	7
Pedestrian intoxicated	8
Breaking of steering gear	8
Animal on highway	5
Parking on concrete	5
Obstruction on road	3
Automobile no lights	4
Parking no lights	3
Wheels locked	2
Axle breaking	2
Wheels buckled	1
Not stated	15



Thompsonville to South Bowers Beach State Highway, Kent County—16-foot Traffic Bound Slag Road.

TYPE OF VEHICLE INVOLVED IN ACCIDENT	<i>Number of Accidents</i>		
	<i>Total</i>	<i>Fatal</i>	<i>Non-fatal</i>
Passenger cars	1127	41	1086
Commercial cars	235	9	226
Omnibus	16	1	15
Motorcycle	16	2	14
Wagons	23	2	21
Bicycles	2	1	1
Airplanes	1	1	0
Totals	1420	57	1363

HIGHWAYS

State	615	41	574
County	128	4	124
Towns	102	8	94
Railroad Crossing	22	4	18
Street Car Crossing	8	0	8
Totals	875	57	818

LIGHT CONDITIONS

Daylight	496	19	477
Darkness	379	38	341
Totals	875	57	818

DAY OF OCCURRENCE

Sunday	191	15	176
Monday	119	7	112
Tuesday	86	5	81
Wednesday	101	7	94
Thursday	100	9	91
Friday	111	7	104
Saturday	167	7	160
Totals	875	57	818

WEATHER CONDITIONS	<i>Number of Accidents</i>		
	<i>Total</i>	<i>Fatal</i>	<i>Non-fatal</i>
Rain	103	2	101
Fog	47	3	44
Clear	657	47	610
Snow	17	0	17
Cloudy	51	5	46
	<hr/>	<hr/>	<hr/>
Totals	875	57	818

TYPE OF ACCIDENT			
Collision with auto	503	14	489
Non-collision accident	110	6	104
Collision with fixed object	102	2	100
Collision with pedestrian	84	22	62
Collision with horse-drawn vehicle	23	4	19
Collision with train	22	5	17
Collision with street car	11	0	11
Collision with airplane	1	1	0
Collision with motorcycle	13	2	11
Collision with animal	4	0	4
Collision with bicycle	2	1	1
	<hr/>	<hr/>	<hr/>
Totals	875	57	818

HOOR OF OCCURRENCE			
12 to 1 A. M.	43	3	40
1 to 6 A. M.	88	6	82
6 to 7 A. M.	19	0	19
7 to 8 A. M.	17	0	17
8 to 9 A. M.	21	0	21
9 to 10 A. M.	27	1	26
10 to 11 A. M.	33	2	31
11 to 12 A. M.	27	2	25
12 to 1 P. M.	31	1	30
1 to 2 P. M.	35	1	34
2 to 3 P. M.	37	2	35

Number of Accidents

	<i>Total</i>	<i>Fatal</i>	<i>Non-fatal</i>
3 to 4 P. M.	59	5	54
4 to 5 P. M.	82	4	78
5 to 6 P. M.	74	4	70
6 to 7 P. M.	70	9	61
7 to 8 P. M.	65	4	61
8 to 9 P. M.	37	3	34
9 to 10 P. M.	40	3	37
10 to 11 P. M.	43	3	40
11 to 12 P. M.	27	4	23
Totals	875	57	818

DRIVER'S SEX

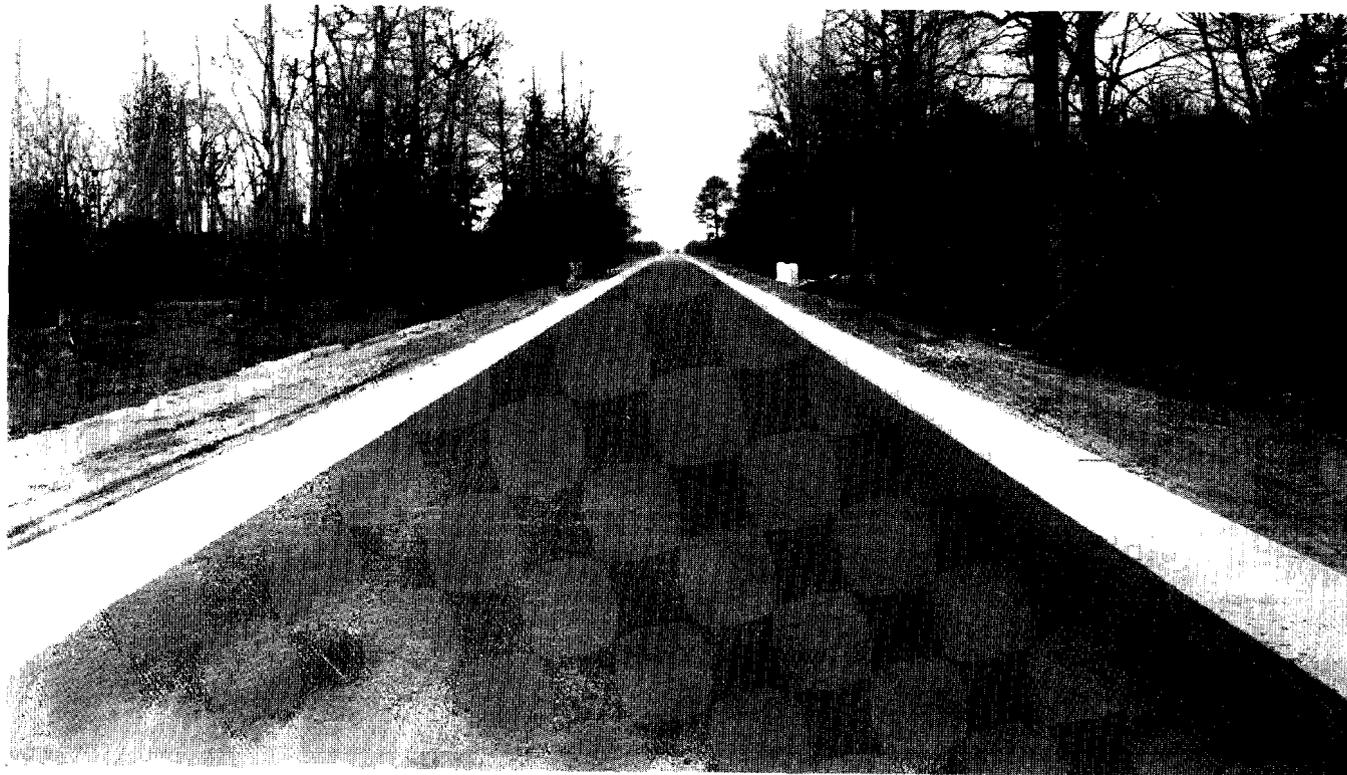
Female	119	5	114
Male	1286	42	1244
Totals	1405	47	1358

In

	<i>Total</i>	<i>In Fatal Accidents</i>	<i>Non-fatal Accidents</i>
DRIVER'S AGE			
Under 18 years	37	5	32
18 to 24 years	408	19	389
25 to 54 years	846	26	820
55 and over	91	5	86
Not stated	23	2	21
Totals	1405	57	1348

DRIVER'S EXPERIENCE

Less than 3 months	22	1	21
6 to 12 months	34	2	32
1 to 2 years	107	6	101
2 years or more	1193	42	1151
Not stated	49	6	43
Totals	1405	57	1348



Coleman du Pont Road, U. S. Route 113, Sussex County—Concrete Shoulders, Amiesite Resurfacing—22-Foot Total Width of Roadway.



Hollandsville-Masten's Corner State Highway, Kent County
9-Foot Concrete Roadway

WIDENING HIGHWAYS During the year the duPont Boulevard was widened to a minimum width of 18 feet between Selbyville and Georgetown, a distance of 18.9 miles, at a cost of \$241,709.82.

It is recommended that this work be extended in 1931 to Milford, thus eliminating the last of the 14-ft. pavements on the main highways of the State.

I would further recommend that construction be begun in 1931 on widening U. S. Route 13 between Dover and Delmar. This is the main route between Philadelphia and Cape Charles and carries in addition to a large passenger traffic a large and growing bus and trucking tonnage. It is at present 16 feet in width which is insufficient to carry safely heavy traffic, of which many vehicles are of the maximum legal width of 96 inches.

SIDEWALKS The number of pedestrians killed each year, approximately 50% of the total fatalities on our highways, justifies the continuing of the policy of the Department of constructing side-

walks outside the limits of incorporated towns where conditions warrant.

I would particularly recommend for construction in 1931 the sidewalk extending from the City Line along the west side of the duPont Boulevard to Farnhurst.

FEDERAL AID For the years ending June 30, 1931 and 1932, Congress appropriated \$125,000,000 annually for Federal Aid; this increased the apportionment for Delaware from \$365,625 to \$609,375.

This additional Federal Appropriation, together with the reduction in Fixed Charges due to the cancelling of \$7,785,000 of State Highway Bonds, by the Sinking Fund Commission, has enabled the Department to carry on a construction program comparable with that of the past three years, without the issuing of Highway Bonds as has been done each year since 1918. The Emergency Public Works Appropriation Bill, passed on December 20th, will make available an additional amount of \$400,000 for Delaware. This last appropriation must be expended before September 1, 1931, and must be returned to the Federal Treasury by a deduction from future Federal Funds over a period of five years beginning 1933.

PUBLIC LANDS Henlopen Avenue on the North side of Rehoboth was extended the past season through the Public Lands to the Ocean and surfaced with gravel.

A sale of land fronting on this road was advertised in October, but owing to the objections of the residents of Rehoboth was withdrawn.

A gravel road was constructed from the Cotton Patch Hills north of the State Military encampment to the Public Lands, a distance of 1.2 miles, at a contract price of \$7,804.00, and a stretch of 2.1 miles constructed by Sussex County was taken over for maintenance. This road makes the Public Lands south of Indian River Inlet available for the use of the National Guard for target practice and has been largely used by the public for recreational purposes.

LOW COST ROADS Dirt road work has been continued in Kent and Sussex County, eleven additional miles having been taken over for maintenance, making a total of 26.4 miles now under observation.

The best results in the maintenance of earth and traffic bound roads can be secured only by the dragging of these surfaces after each rain. The lack of rainfall during the past 18 months has made the maintenance of these roads difficult and unsatisfactory and the drawing of definite conclusions as to their cost and desirability impossible until the completion of a normal season.

The procedure followed in our low cost road work has been to machine grade the highway, using the Department's maintenance forces, applying local surfacing materials where available and maintaining the surface as an earth road, later adding slag, stone screening, sand or gravel as the bad spots develop under traffic and seasonal conditions.

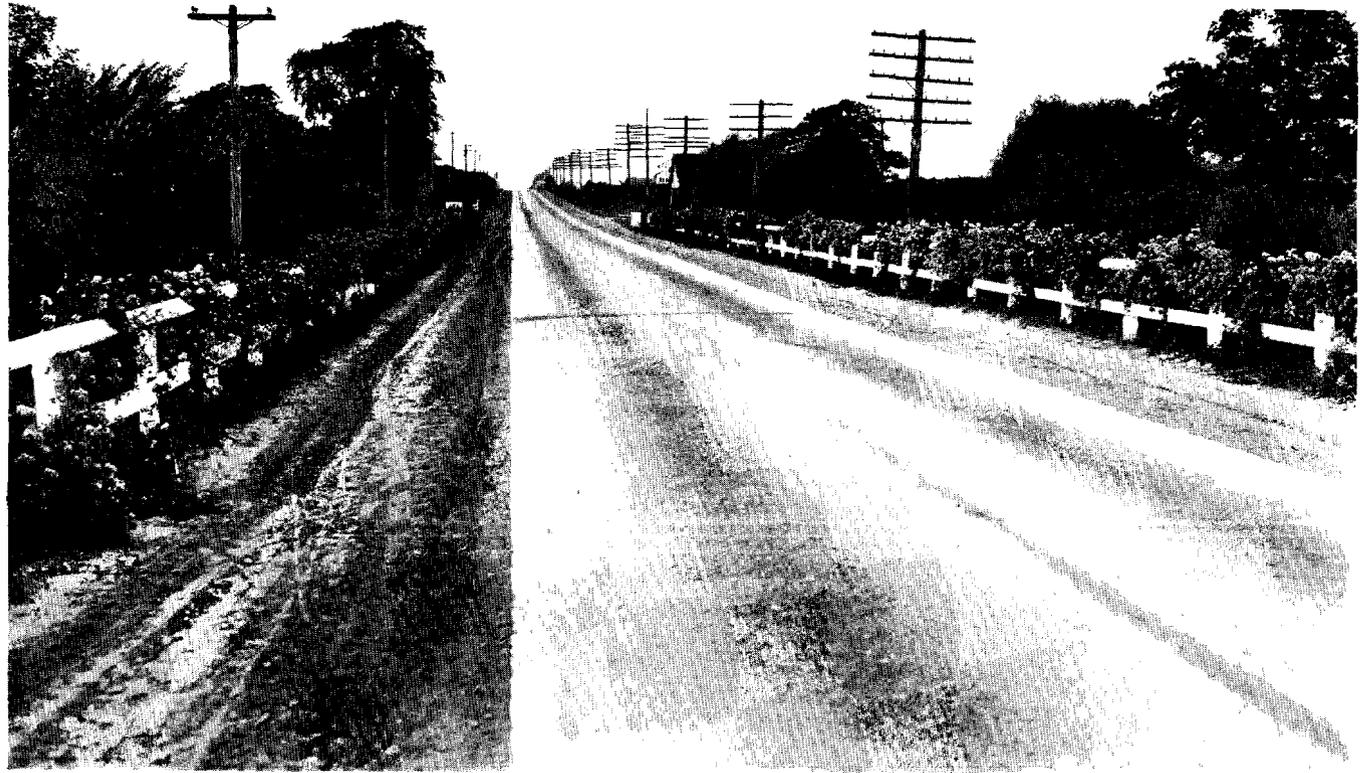
In short, by a gradual process of improvement, bringing up the poorer sections to equal the best, until a road serviceable for twelve months in the year and fully adequate for the traffic conditions is secured.

It is difficult if not impossible to draw specifications and contracts to adequately cover this class of work and the efforts of the Department to secure satisfactory bids on this type of construction have not been successful.

During the year bids were taken on 2.8 miles of work of this class in Kent County. The lowest bid received totalled \$23,683.80. These bids were rejected and the grading done by the maintenance forces of the Department at a cost of approximately \$1,000.00. Later a contract was awarded for surfacing with crushed slag at a cost of \$4,500.00.

While the claim is not made that the resulting road built at a cost of \$5,500 is equal to the road that would have resulted had the contract of \$23,000 been completed, it is my belief that it will prove adequate and satisfactory for the traffic it will receive and that there is a considerable field for roads of this character.

If a large number of the farms not now located on hard surfaced roads are to secure reasonably satisfactory road service within the next 20 years increasing use of roads of low cost must be resorted to.



Magnolia-Dover State Highway, U. S. Route 113, Kent County— Rambler Roses at Moore's Mill.

I would recommend that the Highway Law be so amended that the Department be empowered to grade earth roads other than by its maintenance forces, but by day labor instead of by contract.

HIGHWAY BEAUTIFICATION Until the principal highways were hard surfaced, little interest was shown in highway beautification; now that this necessary background has been secured, a widespread movement is in progress to speed up this important work.

Tree planting was first undertaken by the Delaware Highway Department in 1920 and the planting of trees, roses and shrubbery has been done from year to year.

Nowhere can beautification work be done where so many of our citizens and visitors will be benefited as along our state highways.

At the Annual Meeting of the American Association of State Highway Officials in Pittsburgh, November 17-20, beautification was given an important place in the program of the Convention, and the following resolution was adopted:

Favoring Roadside Beautification

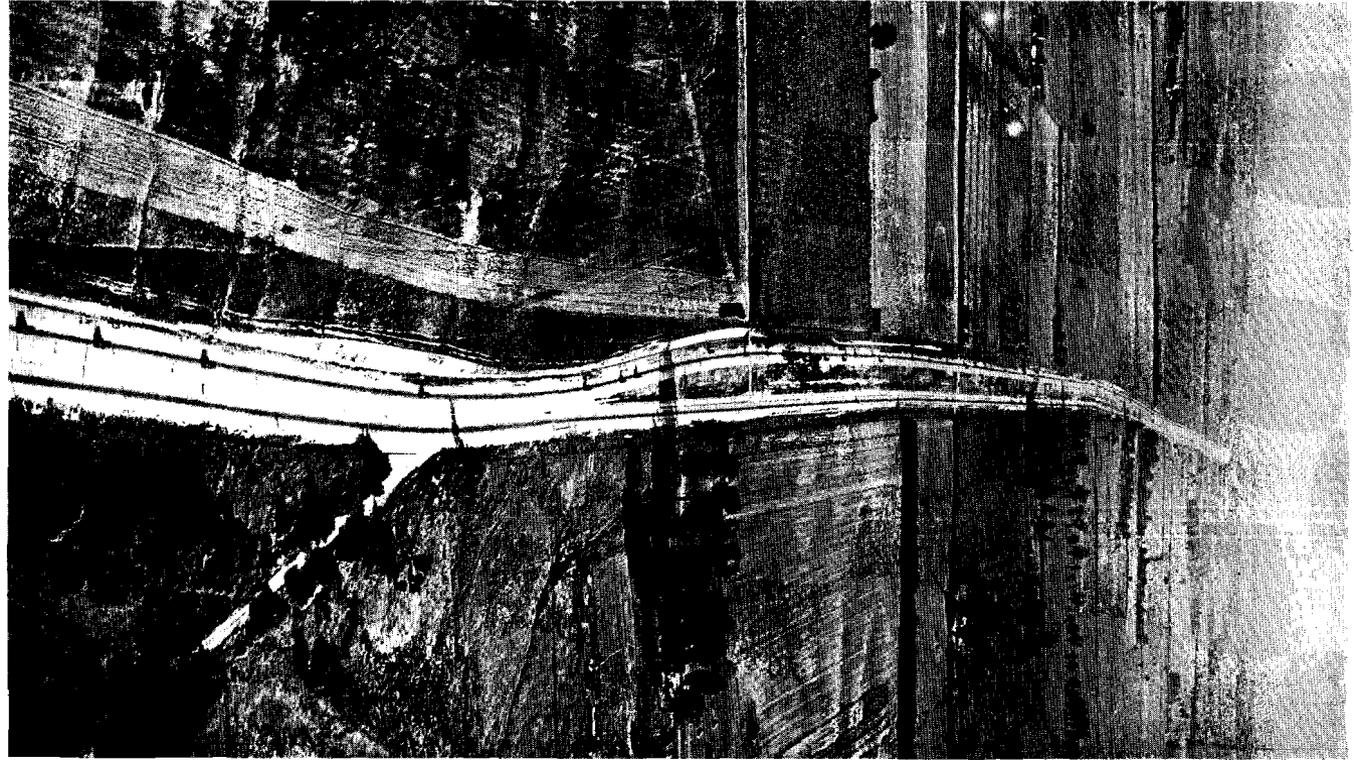
WHEREAS, Roadside beautification and its varied activities reduces highway maintenance costs by checking erosion, preventing slides and controlling drifting snow, reduces accidents, increases adjacent property values, promotes civic pride, opens and reveals natural beauty, advertises the state and provides a healthful recreation and enjoyment for all highway users; therefore, be it

RESOLVED, That

First, Adequate width of highway right-of-way be acquired at the earliest time to provide for future widening and a detailed plan of beautification.

Second, Conservation of natural growth be recognized of first importance and that unnecessary destruction of roadside plants be prohibited.

Third, The absolute control of the right-of-way be vested in the Department of Highways.



Coleman du Pont Road, Dual Highway, U. S. Route 13, New Castle County—Looking South From Near State Road

Fourth, Responsibility for roadside beautification be vested in a competent person to carry out the work of the Department and to encourage individuals and organizations to assist in beautifying town entrances and the roadsides in their localities.

A contract was awarded for the planting of two sections of the dual highway between State Road and St. Georges according to plans prepared by the State Forester.

The hot dry weather of the early spring made the postponement of the planting advisable. This contract will be completed in the spring of 1931.

Acknowledgment is hereby made of the hearty co-operation and interest shown by Mr. Taber, the State Forester, in his work, and of the helpful advice he has freely given with relation to the planting, care and trimming of trees along the roadside.

A number of individuals and organizations have expressed the desire to assist in the planting of the dual highway. The Kiwanis Club of Wilmington was the first to donate a specimen tree. Another fine specimen was given by the Delaware State Association of Graduate Nurses. Recognition will be given of other contributions, when received, in the report for 1931.

DUAL HIGHWAY In his report for the year 1927, Governor Buck then Chief Engineer, first recommended the construction of a 20-foot concrete road paralleling the existing highway between State Road and St. Georges, and pointed out the many advantages to be gained from such a highway, among which he mentioned safety and convenience of one-way traffic, avoidance of night blinding and the attraction it would prove to tourists from other states.

This road was completed early in 1930 and after a year's service it can be confidently asserted that it has fulfilled all of the above predictions and more.

Public opinion insofar as it has been expressed to the Department and as voiced by the press of the State has been unanimous in its approval and praise of this highway. On December 16th bids were opened for another section of this highway extending 4.91 miles in length from St. Georges to a point near Drawyer's Creek.



Bascule Bridge Over Mispillion River, Kent and Sussex Counties, Milford Cut-off.

On January 27th bids will be opened for the grading of another section extending to Fieldsboro, a further distance of 4.4 miles. The embankments across the marshes at Drawyer's and Appoquinimink Creek will require some time for settlement, so that the paving of this section is not contemplated until the Spring of 1932.

In view of the importance of this highway, which is probably more generally used by the people of Delaware than any other, I would recommend the extension of this development, so as to link the capital and First City of the State as rapidly as funds are available.

The completion of such a highway would be an outstanding achievement in highway construction approaching in importance the completion of the duPont Boulevard in 1923.

RECOMMENDED I recommend that the roads chosen for
ROADS improvement during the coming year be selected from the following list, which includes all of those for which petitions have been received by the Department.

NEW CASTLE COUNTY

Porter-Wrangle Hill.
Wright's Corner-Dexter's Corner via Green Spring.
Du Pont Blvd. to David's Corner.
Lancaster Pike.
Kirkwood-Howell School.
Creek Road from Newark to Pa. State Line.
Old St. Anne's Church to "Levels", thence to Townsend Road.
Dexter's Corner-Coldwell.
Old Baltimore Pike (Cooch's Bridge-Maryland Line).
New London-Newark.
Delaware City-Port Penn.
Walker's School-David's Corner.
Adam's Dam-Thompson's Bridge.
Industrial Highway (Wilmington).
Clark's Corner-Du Pont Road.
Clayton-Green Spring.
Walker School-Taylor's Bridge.
Centerville-Perry's Tavern.
Brandywine Sanitarium-Lincoln Highway.
Porter Station-Cooch's Bridge.
Porter Station-Red Lion.

KENT COUNTY

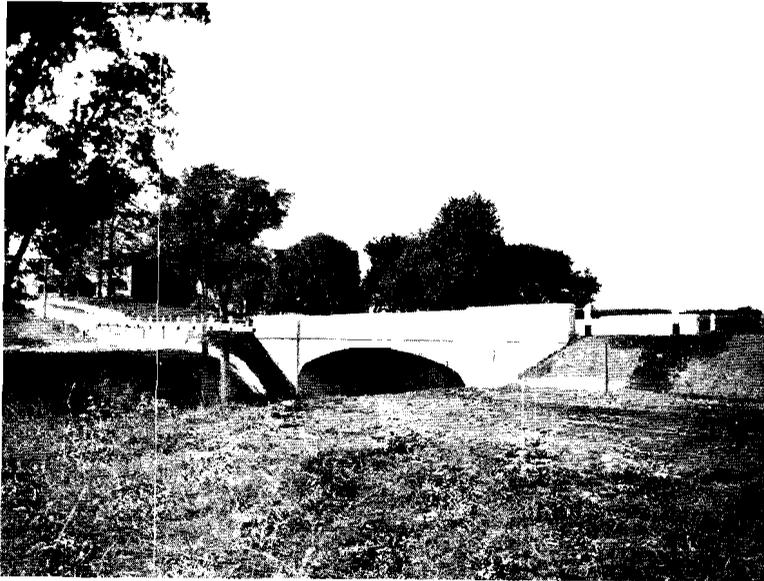
Todd's Corner-Andrewsville.
Harrington-Hughes Crossroads.
Bay Road-Postles' Corner-Little Creek.
Md. Line-Edwardsville-Hollandsville.
Greenwood-Andrewsville Road from the Sussex Co. Line to the An-
drewsville-Farmington Road.
Pearson's Corner-Moore's Corner.
Pratt's School to Pearson's Corner to Dinah's Corner to Kenton.
Hastings' Corner-Moore's Corner.
Adamsville School to Wesley Church at Md. Line.
Masten's Corner Road to Harrington-Burrsville Road.
Hazletville-Willow Grove.
Kenton-Blackiston's.
Brenford-Seven Hickories.
Woodside-Willow Grove-Petersburg Road.
Barker's Landing-Magnolia.
Houston-Staytonville.
Viola-Petersburg.
Todd's Church-Prospect Church (Harrington).
King's Highway, Dover.
Woodside-Rising Sun.
Frederica Lane-So. Bowers Road.
Willow Grove-Mud Mill.
Canterbury to Milford-Harrington Road.
Andrewsville-Vernon.
Hartly-Md. Line (Sudlersville).
Hartly-Cedar Corner.
Staytonville-Farmington.
Wendall's Corner-Bayview School.
Prettyman's Corner-Williamsville.
Vernon-Brownsville.
Mott's Corner-Leipsic Road.
Barker's Landing-Little Creek.
Harrington-Whiteleysburg.

SUSSEX COUNTY

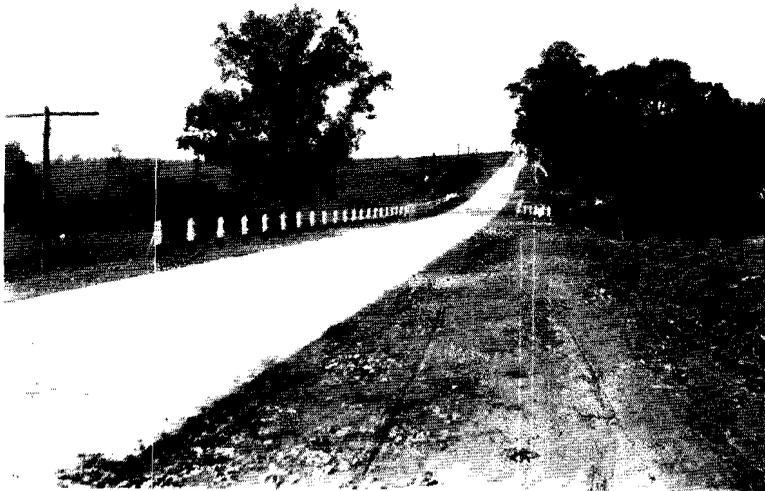
Dublin Hill-Trinity School.
Cedar Neck School House-Cedar Beach.
Whitesville-Hardscrabble.
Double Bridges (East of Bridgeville) to Robbins.
Independence School-Ward's Store.
Laurel-Georgetown State Hwy. to Concord-Hardscrabble State Hwy.
East of Georgetown on Harbeson State Hwy. to West of Milton on
Ellendale State Highway.
Lewes-Rehoboth.

Blackwater Bridge-Culver's Dairy.
 Lincoln Ave., Delmar.
 Broad Creek-Bethel Road to Md. Line.
 Lincoln via Clendaniel's and Poulder's Mill into Milton Lane.
 East Market St., Georgetown.
 Laurel to Broad Creek-Bethel Road.
 Bacon-Whitesville.
 Owens Station-Staytonville.
 Delmar-Ward's School.
 Bowden Garage-Green's Mill.
 Sunnyside School-Bridgeville.
 Seaford-Atlanta.
 Vine's Creek-Y. W. C. A. Camp-Sandy Landing.
 Dagsboro-Millsboro-Laurel Road near Mission.
 Millsboro-Sandy Forks to Concord Road where it intersects Laurel-
 Georgetown Road.
 Frankford-Shaftox.
 Double Bridge-Robbins.
 Du Pont Boulevard, Milford-Georgetown (widen).
 Lowes Cross Road through Gumboro to Selbyville.
 Smith Mill-Elliott's School.
 Lincoln City-Milford-Rehoboth Road.
 Marshy Hope Road-State Highway, North of Greenwood.
 Lone Gum-Seaford-Bridgeville State Highway via Old Furnace Mill
 and Middleford.
 Roxana-Sound Church Road.
 Concord-Laurel Georgetown Road via Spicer's Mill.
 Collins' Mill-Middleford.
 Frankford-Roxana.
 Springfield Cross Roads-Georgetown.
 Stockley-Angola via Zoar Church and Hollyville.
 Five Points-Fairmount.
 Lowe's Corner towards Gumboro.
 Bryan's Store-Sandy Forks.
 Laurel-Millsboro via Bryan's Store and Hardscrabble.
 Baker's Corner to Greenwood-Ellendale Road.
 Delmar-Kent County Line (widen).

REDUCTION OF The year 1930 marks an important
MOTOR VEHICLE change in the fundamental policy of the
FEES Department. Previous to this year a large
 portion of the construction cost was financed by bond issues of the
 State and Counties; during 1930, however, the entire cost of con-
 struction has been paid from current revenues with the addition of
 Federal Aid from the Federal Treasury.



Maryland Line-Newark State Highway (Conowingo Road) New Castle County—42-Foot Arch Bridge Over Christiana Creek.



Maryland Line-Newark State Highway (Conowingo Road) New Castle County—16-Foot Concrete Roadway.

The adoption of the "Pay-as-you-go" policy is an important one, and was made possible only by the debt reduction program carried out by Governor Buck, otherwise a drastic reduction in the construction schedule of the Department would have resulted.

Had the retirement of the Highway Bonds not been undertaken, it would have been but a few years before the increasing interest and sinking fund charges and the increasing cost of maintenance would have absorbed practically the entire income of the Department, and automatically brought about a "pay-as-you-go" plan without the present possibilities of continued construction.

A reduction of revenue by the reducing of the automobile registration fees or the gasoline tax without a corresponding reduction of the interest and sinking fund payments which includes the payment of the interest on County Highway Bonds of \$370,000 annually should not be made unless the people of the State desire a reduction of the present highway program.

In view of the fact that only approximately one-third of the highways of the State are usable during the entire year, no material change would seem advisable without carefully considering its possibilities.

For the purpose of comparison, I am attaching a tabulation prepared by the American Association of State Highway Officials showing the average revenue derived per registered motor vehicle for all states for the year 1929. It may be noted that Delaware ranks 21st, being lower than any nearby state with the exception of New Jersey.

**Motor Vehicles Registered, License, Gasoline, and Personal
Property; Taxes Paid in 1929**

State	No. of Automobiles and Trucks	Average License Tax Per Vehicle	Average Gasoline Tax Per Vehicle	Gas Tax Per Gal.	Personal Property Tax Average	Total of All Taxes Average
1 North Dakota	188,046	\$10.58	\$9.58	3	None	\$20.16
2 New York	2,263,259	16.92	8.43	2	None	25.35
3 Minnesota	730,399	14.85	12.17	3	None	27.02
4 Iowa	784,450	15.19	11.92	3	None	27.11
5 Illinois	1,615,088	10.57	7.21	3	\$9.37	27.15
6 Kansas	581,223	9.80	14.06	3	5.16	29.02
7 New Jersey	832,332	17.79	12.01	2	None	29.80
8 Wisconsin	793,502	14.84	9.43	2	6.15	30.42
9 Indiana	866,715	7.21	18.01	4	5.24	30.46
10 Oklahoma	570,791	12.20	18.99	4	None	31.19
11 Missouri	756,680	12.81	10.15	2	8.60	31.56
12 Idaho	118,074	15.14	16.48	4	None	31.62
13 Michigan	1,395,102	16.64	15.28	3	None	31.92
14 Massachusetts	817,704	8.70	11.93	2	11.33	31.96
15 Utah	112,661	7.44	17.57	3½	7.25	32.26
16 Colorado	303,489	6.05	17.19	4	9.36	32.60
17 South Dakota	204,199	15.43	17.36	4	None	32.79
18 Nebraska	418,226	10.26	18.65	4	3.98	32.89
19 Montana	140,387	11.04	19.96	5	3.00	34.00
20 Texas	1,348,107	15.15	16.55	4	3.28	34.98
21 Delaware	54,960	18.62	17.03	3	None	35.65
22 Ohio	1,766,614	7.28	19.29	4	10.40	36.97
23 Maryland	319,873	11.30	19.69	4	6.25	37.24
24 Pennsylvania	1,733,283	16.88	20.63	3	None	37.51
25 California	1,974,341	5.31	17.32	3	15.00	37.63
26 Arizona	109,013	6.87	23.48	4	8.80	39.15
27 Wyoming	60,680	10.67	21.36	4	9.10	41.13
28 Washington	442,341	17.06	13.44	3	10.87	41.37
29 New Hampshire	108,880	20.65	20.82	4	None	41.47
30 West Virginia	268,888	16.98	18.12	4	7.47	42.57
31 North Carolina	483,602	14.57	24.83	5	3.38	42.78
32 Vermont	93,030	25.15	18.31	4	None	43.46
33 Oregon	269,007	28.42	16.89	3	None	45.31
34 Alabama	285,533	13.08	24.88	4	7.80	45.76
35 Connecticut	328,063	24.36	12.49	2	9.29	46.14
36 South Carolina	231,274	11.56	29.71	6	5.00	46.27
37 Virginia	387,205	15.87	25.55	5	5.00	46.42
38 Maine	184,506	16.42	20.10	4	10.18	46.70
39 Tennessee	362,431	11.83	25.63	5	9.30	46.76
40 New Mexico	78,374	9.66	29.22	5	8.50	47.38
41 Louisiana	280,868	16.11	24.85	4	6.64	47.60
42 Kentucky	332,848	16.17	23.26	5	8.40	47.83
43 Georgia	358,905	12.73	28.49	6	6.90	48.12
44 Rhode Island	134,009	17.94	11.54	2	20.00	49.48
45 Arkansas	233,128	18.07	28.66	5	4.00	50.73
46 Mississippi	250,011	11.85	28.70	5	12.41	52.96
47 Florida	345,977	14.33	35.35	6	10.00	59.68
48 Nevada	31,915	9.30	20.44	4	52.28	82.02

FINANCIAL STATEMENT The Secretary will present an itemized report of the finances of the Department as soon as possible after the closing of the accounts for 1930. I am attaching herewith a summarized statement of income and expenditures for the period beginning January 1, 1930, and ending November 30, 1930.

Income

Balance from 1929	\$ 6,257.98
Motor Vehicle Fees	1,066,666.90
Titling Fees	30,561.95
Gasoline Tax	962,233.00
Police Fines	71,570.66
Federal Aid	370,429.50
P. R. R. Co. Newport Underpass	8,241.46
Misc. Rentals and Reimbursements	12,260.76
	\$2,528,222.21
Total Income	

Expenditures

Administration	\$ 34,074.72
Fixed Charges:	
Int. and Sinking Fund State Highway Bonds	104,000.00
Int. New Castle County Highway Bonds	106,175.00
Int. Kent County Highway Bonds	89,150.00
Int. Sussex County Highway Bonds	86,312.50
Maintenance	208,941.10
Plant and Equipment	50,356.27
Traffic Police	122,434.54
Construction	1,711,159.73
	\$2,512,603.86
Total Expenditures	
Balance December 1, 1930	\$ 15,618.35

IN MEMORIAM Early in the year, the Department sustained a severe loss in the death of Mr. Joseph E. Holland. Mr. Holland was a member of the original Highway Department appointed by Governor Townsend in 1917 and had rendered the State faithful and valuable services over a period of almost 13 years. Intensely interested in the growth and development of Delaware and a

firm believer in the value of improved roads, he gave freely of his time and thought to the Department. A man of unquestioned integrity and uprightness, he accomplished much in his quiet, unassuming way. His kindly spirit will remain forever as a memory to those associated with him.

Within the year the Department also lost by death two friends and former members of the Department, Mr. Josiah Marvel and Senator T. Coleman duPont.

Mr. Marvel was a member of the Department from 1917 until he resigned on January 1, 1922. He brought to the Department his unusual abilities, unbounded enthusiasm and a determination to have the right thing done in the right way. He contributed largely to the success of the Department in the early years.

Senator T. Coleman duPont was likewise a member of the original commission appointed by Governor Townsend, but his interest and activity in highway matters preceded by many years the organization of the Department.

With characteristic foresight, Senator duPont was probably the first to realize that the traffic on our highways was destined to approach in speed and volume that of the railroads, and he had the courage and patience, in spite of determined opposition, to plan and construct the duPont Boulevard with provision for the future.

With a right of way 200 feet in width, bypassing all towns, with curves and grades adequate for present high speed traffic, this highway, after a lapse of 20 years, compares favorably with the most modern super-highways now being planned. To his clear vision is largely due the high character of the present highway system.

His financial contribution to Delaware's highways was the greatest personal gift to highway building in history, but the standards of design and construction which the Department inherited from him were probably of even greater worth in solving the highway problems of the State.

The great personal interest that Senator duPont took in highway work was continued until his death, and in his passing the State has lost an eminent citizen and the Department, an understanding friend.

In closing I wish to express my appreciation of the support, co-operation and assistance which I have received during the year from His Excellency, the Governor, and from each member of the Department, which has made the work of the year a real pleasure.

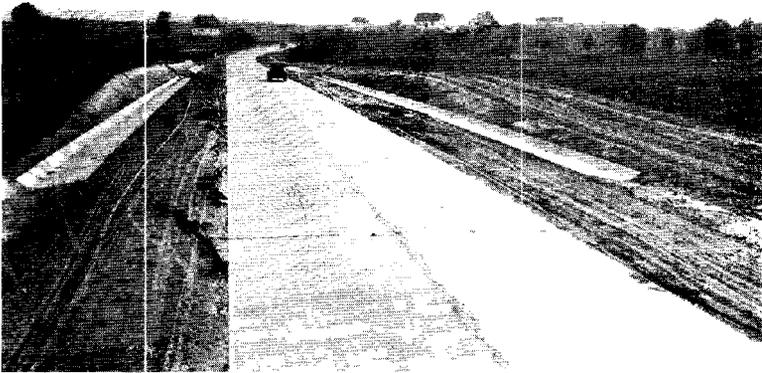
I wish also to acknowledge my obligation to each of my associates and assistants, without whose willing and faithful service, the accomplishments of the year would have been impossible.

Respectfully submitted,

W. W. MACK,
Chief Engineer.



Maryland Line-Blackiston's Cross Roads State Highway, Kent County
16-Foot Concrete Roadway



Governors Avenue, Dover, U. S. Route 13, Kent County
20-Foot Concrete Roadway